REMARKS

Request for reconsideration and allowance of all the pending claims are respectfully requested in light of the amendments and following remarks. Claims 1-27 remain pending herein and stand rejected.

Claims 1-5, 7-9, 11, 14-17, 19-21, 23, 26 and 27 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Apostolopoulos et al. (US 6,404,814) in view of Jojic et al. (US 20040095374). Claims 6, 13, 18 and 25 also stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Apostolopoulos in view of Jojic in view of Volk (US 5,673,401). Claims 10 and 22 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Apostolopoulos in view of Jojic in view of Kaye et al. (US 20050104878). Claim 12 and 24 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Apostolopoulos in view of Jojic in view of Alattar et al. (US 20030185417) further in view of Garrido (US 20040022318A1).

Applicant respectfully disagrees with, and explicitly traverses, the Examiner's reason for rejecting the claims. A claimed invention is prima facie obvious when three basic criteria are met. First, there must be some suggestion or motivation, either in the reference themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the teachings therein. Second, there must be a reasonable expectation of success. And, third, the prior art reference or combined references must teach or suggest all the claim limitations.

With regard to claim 1, this claim, as amended, recites:

1. Method of changing the size of presentation of an image data stream provided in an image data format created by an object based compression application, the method comprising the steps of:

      obtaining an image data stream coded in a format comprising at least one object layer and a background sprite layer including information about background elements of a scene displayed in a number of frames, the image data stream having a first original field of view to be presented in, wherein said original field of view corresponds to an original aspect ratio,

      selecting at least parts of the image data stream, outside the first original field of view, from the background sprite layer to obtain selected image data comprising values of pixel regions from an area larger than the original field of view, and

      changing the field of view by calculating an image to be displayed conforming to a second field of view based on the obtained data and values such that image data comprises pixel values substantially covering the second field of view, wherein said second field of view corresponds to a different aspect ratio.

      Claim 1 has been amended to more clearly define the invention. Applicant will now briefly discuss an embodiment of the claimed invention to illustrate its functionality. In this embodiment, the data stream is coded in an MPEG4 format. The background sprite layer of MPEG4 is referred to in the standard as a sprite panorama image or just the sprite. In supplying a data stream of an athletic event such as a tennis match, a foreground object (e.g., a tennis player) is segmented from the background and coded in an object layer. The sprite panorama is a still image that describes, as a static image, the content of the background over all frames in the sequence. The present invention is

based on the recognition that the data present in the sprite outside the area covered by the image to be displayed ("the first field of view" which "corresponds to an original aspect ratio" of claim 1) is used to display the image with another aspect ratio ("the second field of view").

Amended claim 1 is not limited to MPEG4 coded image data as the invention can be applied to other object-based compression applications. As discussed in [0049] of the specification, the data stream is coded into different layers. A layer is provided for each object and one layer is provided for background. This background layer is also referred to as the sprite layer which has information that extends far outside the frame. Further, the sprite layer includes information about background elements displayed in a scene that is displayed in a number of frames.

Claim 1 recites that the background sprite layer, which includes "information about background elements of a scene displayed in a number of frames," is used to create a second field of view that is larger than the original field of view. In particular the claim recites "selecting at least parts of the image data stream, outside the first original field of view, from the background sprite layer" to create this second field of view. Moreover, as amended, claim 1 now recites that the changed field of view corresponds to a change in the aspect ratio. Support for this correspondence between field of view and aspect ratio is found, *inter alia*, in paragraph [0051] of the published application:

For the sprite some of the pixel regions thus are at least partially outside the **original field of view or aspect ratio**. The background sprite and the object are both provided in the frame format to a combining unit 26 for each frame of the video sequence that is to be displayed. A control unit 24 **determines a second field of view, which here is the new aspect ratio to be used**, step 44 … [emphasis added]

The Office Action uses the combination of Apostolopoulos and Jojic in the rejection of claim 1.   As described in the Field of the Invention section, the Apostolopoulos patent "relates to coded signals that represent groups of pictures using fewer bits than conventional picture signals and, in particular, to a transcoding method and transcoder that transcodes a predictively-coded object-based picture signal representing a group of pictures to a predictively-coded block-based picture signal representing the group of pictures to allow a conventional block-based picture signal decoder to decode the predictively-coded object-based picture signal" (col. 1, lines 9-16).

The Office Action points to numerous, disjoint sections of Apostolopoulos in addressing various elements of claim 1. Of significance is that many of these sections relate to occlusion of objects rather than "field of view" as defined in the present invention (e.g., col. 27, lines 5-10; col. 33, lines 15-25). Applicant has amended claim 1 to make clear that the "field of view" in the claim is associated with a selected aspect ratio (and not occlusions of objects or boundary tiles as taught by Apostolopoulos). Apostolopoulos fails to even mention the term "aspect ratio," much less teach or suggest

modifying the field of view of the presentation of an image data stream in accordance with a changed aspect ratio as recited in claim 1.

Jojic relates to decomposing video images into sprite layers:

In general, the basic idea is to isolate or identify a particular object or objects within a sequence of images, then to decompose that video sequence into a number of layers, with each layer representing either an object or a background image over the entire video sequence. Such layered objects are commonly referred to as "sprites." However, learning "sprites" from a video sequence is a difficult task because there are typically an unknown number of objects in the video sequence, and those objects typically have unknown shapes and sizes, and they must be distinguished from the background, other sprites, sensor noise, lighting noise, and significant amounts of deformation. [0004]

The Office Action points to paragraphs [0391] - [0392] of Jojic as "selecting at least parts of the image data stream outside the original field of view from the background sprite layer to obtain selected image data comprising values of pixel regions from an area larger than the original field of view (obstructed pixels, [0016]; background pixels occluded, [0020]" (Office Action at bottom of page 4). As noted above Jojic teaches creating a background sprite layer. In particular, paragraph [0391] cited by the Examiner, teaches "in order to 'fill in' the background sprite model, the borders of the original sequence was padded with zeros."

In contrast, the present invention utilizes the background sprite layer coded in the image data stream format (claim 1, lines 4-6). Further, as noted above with respect to

Apostolopoulos, the "field of view" of the present invention is not defined by occlusions which may be occurring. Still further, as in Apostolopoulos, Jojic fails mention the term "aspect ratio" much less teach or suggest modifying the field of view of the presentation of an image data stream in accordance with a changed aspect ratio as recited in claim 1.

It should be noted that the phrase "aspect ratio" appears in claims 12 and 24; which claims were rejected in the Office Action by the combination of Apostolopoulos, Jojic, Alattar and Garrido.

Claim 12 recites:
Method according to claim 1, wherein the first field of view corresponds to an aspect ratio of 4:3 and the second field of view corresponds to an aspect ratio of 16:9.

Alattar, *inter alia,* relates to detecting watermarks. Moreover, paragraph [0027] cited in the Office Action rejection relates to watermarks that may already "be re-sized horizontally and vertically (e.g. by aspect ratio changes)." In his method of watermark detection Alattar accounts for such distortions – he does not change the field of view corresponding to a change in aspect ratio as recited in claim 1 (or claim 12).

Garrido relates to "a method of enhancing picture quality of a video signal" (Abstract). As noted in the Office Action, Paragraph [0047] of Garrido does include a discussion of 16:9 and 4:3 aspect ratios. However, this discussion does not teach or

suggest the feature of claim 1 (or claim 12) where the field of view is changed corresponding to a change in aspect ratio in the manner as recited in the claim.

Having shown that the combined device resulting from the teachings of the cited references does not include all the elements of the present invention, Applicant submits that the reasons for the Examiner's rejection of the claims have been overcome and can no longer be sustained. Applicant respectfully requests reconsideration, withdrawal of the rejection and allowance of the claims.

In the matter of obviousness there is a great emphasis placed on "the importance of the motivation to combine." For example, the court in <u>Yamanouchi Pharmaceutical Co. v. Danbury Pharmacal, Inc.</u> 231 F. 3d. 1339, 56 USPQ2d. 1641, 1644 (Fed. Cir. 2000) found that:

> an examiner … may often find every element of a claimed invention in the prior art. If identification of each claimed element of the prior art was sufficient to negate patentability, very few patents would ever issue. Furthermore rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner … to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention … To counter this potential weakness in the obviousness construct, the suggestion to combine requirements stands as a critical safeguard against hindsight analysis and rote application of the legal test for obviousness. id. quoting In re Rouffet, 149 F.3d 1350, 1357-58, 47 USPQ 2d 1453, 1457 (Fed. Cir. 1998)

In this case, Applicant believes that with regard to the referred-to claims, the Examiner has impermissibly incorporated the teachings of the present invention in the

cited reference to reject the claims. Accordingly, Applicant submits that the reasons for the Examiner's rejections of the claims have been overcome and the rejection can no longer be sustained. Applicant respectfully requests reconsideration, withdrawal of the rejection and allowance of the claims.
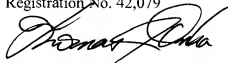
In view of the foregoing discussion, the Office Action has failed to make out a *prima facie* case of obviousness, instant independent claim 1 is allowable, and the rejection should be withdrawn. Independent claims 14 and 27 recite similar features and are deemed patentable for at least the same reasons.

Claims 2-13 and 15-26 are dependent from one of the independent claims discussed above, and are believed allowable for at least the same reasons and any rejections thereof should be withdrawn. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

For all the foregoing reasons, it is respectfully submitted that all the present claims are patentable in view of the cited references.   A Notice of Allowance is respectfully requested.

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